

CLAIM AMENDMENTS

Claims 1-11 (canceled).

Claim 12 (withdrawn): A method for preventing current overloading and saturation of a switch power supply, comprising:

1) checking whether a primary current of an transformer, a current of an induction and a current of a power tube being excess an upper limit current; and

2) generating an adjusting signal so as to directly or indirectly adjust an error signal if the upper limit current is excess the upper limit, so that during subsequent adjustable periods, a duty cycle is reduced.

Claim 13 (withdrawn): A switch power supply utilizing the method as recited in claim 12, comprising a converter circuit, a feedback circuit, a control circuit and a supplemental circuit, wherein a protective circuit of said supplemental circuit comprises a serial of transformer primary or power tube current sample circuit, a serial of transformer primary or inductance or power tube upper limit current detecting circuit, and a regulating circuit adapted for directly and indirectly regulating an error signal according an outputted signal from said detecting circuit.

Claim 14 (withdrawn): A switch power supply IC utilizing the method as recited in claim 12, integrating a control circuit and a protective circuit, wherein said protective circuit comprises a serial of transformer primary or power tube current sample circuit, a serial of transformer primary or inductance or power tube upper limit current detecting circuit, and a regulating circuit adapted for directly and indirectly regulating an error signal according an outputted signal from said detecting circuit.

Claim 15 (withdrawn): The switch power supply IC, as recited in claim 14, wherein said control circuit further comprises a PWM circuit, an oscillator, and a drive circuit, said PWM circuit is adapted for outputting a pulse to said drive circuit which has two outputs, one of which is adapted for driving a base of a power triode and another of which is adapted for driving an emitter of said power triode.

Claim 16 (withdrawn): A digital processing high quality PFC, comprising a step for adjusting a PFC reference signal at predetermined ending point of a cycle, wherein

said cycle is integer multiple of a commercial power, and each of said ending point of said cycle is synchronized with an edge of the commercial power half cycle;

or said cycle is much larger than said half cycle of said commercial power; and

or said cycle is not synchronized with said edge of said commercial power half cycle nor much larger than said commercial power half cycle, wherein a single time adjusting capacity is small so as to satisfy IEC1000-3-2 and IEC1000-3-4 standard.

Claim 17 (withdrawn): A PFC device utilizing the method as recited in claim 16, further comprising a converter circuit, a reference circuit, a control circuit and a supplemental circuit, wherein said reference circuit comprises a series of voltage signal sample circuit of an output circuit, a voltage signal detection or module converter (A/D) circuit, a reference logic circuit and a reference output circuit, wherein said reference signal is send to said control circuit to generate a pulse.

Claim 18 (withdrawn): A PFC IC utilizing the method as recited in claim 16, further integrating a portion of a reference circuit, wherein said reference circuit comprises a series of voltage signal sample circuit of an output circuit, a voltage signal detection or module converter (A/D) circuit, a reference logic circuit and a reference output circuit, wherein said reference signal is send to said control circuit to generate a pulse.

Claim 19 (withdrawn): The PFC IC, as recited in claim 18, further comprising a control circuit of a pulse adjustable circuit comprising a ratio current circuit, a timing circuit, a pulse width adjustable logic circuit, a current amplifier and an oscillator wherein a PFC reference signal is applied as an output of said ratio current circuit, a pair of digital signal of said timing circuit are send to said pulse width adjustable logic circuit which in turn is adapted for outputting a pair of digital signal to said timing circuit, an output signal of the current amplifier is send to said timing circuit, said output signal from the oscillator is send to said pulse width adjustable logic circuit, finally said pulse width adjustable logic circuit will output a pulse signal.

Claims 20-26 (canceled).

Claim 27 (new): A green switch-mode power supply with standby function, comprising:

a standby switched-mode power supply, comprising a standby converter circuit, a standby feedback circuit, and a standby control circuit; and

a main switched-mode power supply, comprising a main converter circuit, a main feedback circuit, and a main control circuit, wherein said main switched-mode power supply is subjected to a remote control signal to be on/off, wherein said main feedback circuit comprises a main sampling circuit, a main error amplifier, a main isolation circuit, and a remote control circuit, wherein said main control circuit comprises a main pulse adjustable circuit, a main driven circuit and a main switched-mode power supply prohibitive circuit; and

a supplemental circuit, comprising an initiating circuit, a rectifying filter circuit, wherein DC terminal of said standby switched-mode power supply, said standby control circuit, DC input terminal of said main switch-mode power supply and said main control circuit are common grounded; and

a monolithic green switched-mode power supply IC integrated with said standby control circuit, said main control circuit and said initiating circuit of said supplemental circuit, wherein said monolithic green switched-mode power supply IC is activated by said initiating circuit and is power-supplied by said standby switch-mode power supply.

Claim 28 (new): The green switch-mode power supply with standby function, as recited in claim 27, wherein an optical coupling is applied in said remote control circuit for sending said remote control signal to said main control circuit, wherein when said remote control signal is an "off" signal, said main switched-mode power supply prohibitive circuit forces said main driven circuit to output a low electric level so as to switch off said main switch-mode power supply, and when said remote control signal is an "on" signal, said main pulse adjustable circuit generates a main pulse in responsive to said main error signal, such that main driven circuit is normally operating to switch on said main switch-mode power supply.

Claim 29 (new): The green switch-mode power supply with standby function, as recited in claim 27, wherein said remote control signal is sent to said main control circuit

in response to a main error signal for controlling said main switch-mode power supply on/off, wherein when said remote control signal is an “off” signal, said remote control circuit force said main error signal being less than a predetermined threshold value, when said remote control signal is an “on ” signal, said remote control circuit is deactivated, such that said main sampling circuit outputs a voltage signal to said main error amplifier to generate an optically coupled current through said main isolation circuit so as to output a main error signal; wherein said main error signal is monitored by said main switched-mode power supply prohibitive circuit, when said main error signal is smaller than said threshold value, said remote control signal is assumed to be said “off” signal, such that said switched-mode power supply prohibitive circuit forces said main driven circuit to output a low electric level so as to switch off said main switch-mode power supply, and when said main error signal is not smaller than said threshold value, said remote control signal is assumed to be said “on” signal, that said main pulse adjustable circuit generates a main pulse in responsive to said main error signal, such that said main driven circuit is normally operating to switch on said main switch-mode power supply.

Claim 30 (new): The green switch-mode power supply IC with standby function, as recited in claim 27, wherein said standby control circuit further comprises a standby pulse adjustable circuit and a standby driven circuit, said standby pulse adjustable circuit generating a standby pulse signal in response to a standby error signal, wherein said main control circuit further comprises said main pulse adjustable circuit, said main driven circuit and said main switch-mode power supply prohibitive circuit; wherein said remote control signal is sent to said main switched-mode power supply prohibitive circuit, when said remote control signal is an “off” signal, said main switched-mode power supply prohibitive circuit forces said main driven circuit to output a low electric level so as to switch off said main switch-mode power supply, and when said remote control signal is an “on” signal, said main pulse adjustable circuit generates a main pulse in responsive to said main error signal, such that main driven circuit is normally operating to switch on said main switch-mode power supply.

Claim 31 (new): The green switch-mode power supply IC with standby function, as recited in claim 27, wherein said standby control circuit further comprises a standby pulse adjustable circuit and a standby driven circuit, said standby pulse adjustable circuit generating a standby pulse signal in responsive to a standby error signal, wherein said

main control circuit further comprises said main pulse adjustable circuit, said main driven circuit and said main switch-mode power supply prohibitive circuit; wherein said remote control signal is sent to said main control circuit in responsive to a main error signal, wherein said main error signal is monitored by said main switched-mode power supply prohibitive circuit, when said main error signal is smaller than said threshold value, said remote control signal is assumed to be said "off" signal, such that said switched-mode power supply prohibitive circuit forces said main driven circuit to output a low electric level so as to switch off said main switch-mode power supply, and when said main error signal is not smaller than said threshold value, said remote control signal is assumed to be said "on" signal that said main pulse adjustable circuit generates a main pulse in responsive to said main error signal, such that said main driven circuit is normally operating to switch on said main switch-mode power supply.

Claim 32 (new): The green switch-mode power supply IC with standby function, as recited in claim 30, wherein said IC is further integrated with a PFC error amplifier and a PFC control circuit, wherein said PFC control circuit comprises a PFC pulse adjustable circuit and a PFC driven circuit.

Claim 33 (new): The green switch-mode power supply IC with standby function, as recited in claim 31, wherein said IC is further integrated with a PFC error amplifier and a PFC control circuit, wherein said PFC control circuit comprises a PFC pulse adjustable circuit and a PFC driven circuit.